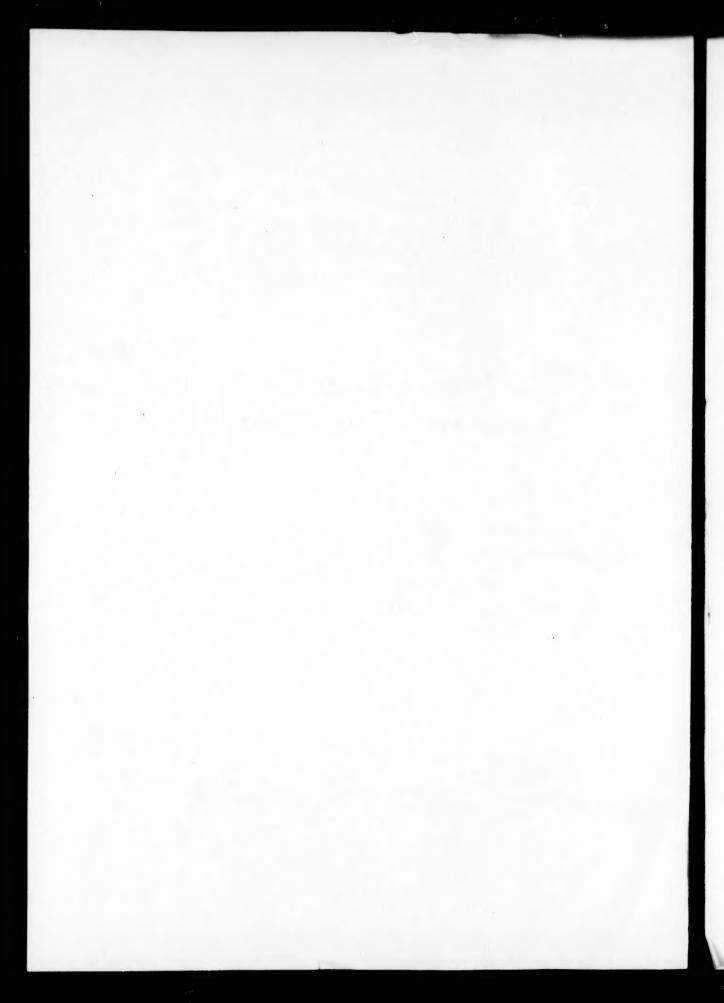
# MACHINERY

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"Bondmaster M620" High-strength Epoxy Adhesive Bonds Metal, One-			Briquetting Chips Saves Space Bristol Co.:	Oct.	198	Burgmaster Turret Drills Burgmaster High-speed Turret	Sept.	260
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Coast Metals, Inc.: High-nickel Brazing Alloys for High-			J. Altmann Contour Turning, Electrically Con-	July	180	Cradle, Cabinet-mounted Slide Feed with Straightener and Multi-roll Coil	Mar.	217
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Coating Objects with Plastic Materials,			Contouring Tapered Sections by Radial			Large Capacity Precision Lapping		000
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Cutter-head Designed to Machine Awk-			Descaling Machine, Pangborn High-			Die Steel Called "MC-Mold and Cavity		
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Forging Equipment, Ajax Forging Press with Side Rams, Gigantic	Sept	215	Gages, Magnetic Hold-downs, and Pocket Scriber, Planer		225	ducing Thin-tooth Sections in Flanks	Mar	. 235
Form Tools by Electrical Discharge	Aug.	200	Gages, Nilco Dial		. 223	Gear-tooth Space Comparator		240
Machining. N. P. Cici	July	148	Gages; Starrett Micrometer, Hole Saw,			Gear Train Diminishes Backlash, Dusi.	-	
Formed Steel Tube Institute:			Dial Indicators, and Radius	Sept	. 322	B. J. Popper	Dec.	193
Film on Tubing Available	July	270	Gages, Surface Plates, Wheel-heads,			Gears—A New Development in Gears		
Forming Machine, Slip Roll Forming Operations, Merry-Go-Rounds	May	214	and Spindles; Bryant	Mar	. 197	of Skew-axis type, Spiroid. Fred	0-1	150
Speed 'ubber Lyle Boarts and			Gages, Two Improved Designs for Wood- ruff Key-slot. L. W. Lazarick		175	Gears and Gearing, see also Spiroid	Oct.	122
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Formsprag Co.:			W. M. Halliday	Jan.	174	Machine for Processing Rear Drive	July	295
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Formulas for Calculating Replacement			ternal Groove, Lathe and. W. M.			ing Machines for Internal and Exter-		
Helical Gear Dimensions from easily Made Measurements (Data Sheet)	Inn	211	Halliday	June	192	nal	Dec.	202
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Machine Tool Industry Has Contri-			"Frictionless" Design with Ball			Gears, Red Ring Gear Checker for In-		
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Fountains, Vibrating Roll Drive for	Sept.	248	Gamundi, Raymond F.:			Gears, The ABC's of Designing Injec-		
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Fox Engineering Co.:	raug.		"Garden Gate," Martin Light Bomber	Aug.	101	Gears, Two-station Machine for Broaching Helical	Nov.	206
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Furnace, High-temperature Electric			Gear Carriers, Transfer-Matic for		200	Arc with Carbon Dioxide		
Furnace, High-temperature Vacuum Furnace in Operation, Largest Vacuum	may	201	Processing Differential	May	209	Fractional-horsepower Motors Film entitled "This is Automation"	Dec. Jan.	
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Furnace, Small Laboratory			Gear Checker, Red Ring	May		cants Now Available	Jan.	169
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			Red Ring Automatic			mechanical Materials and Pro-		
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G			Gear-cutting Machine, Cabinet Model Pinion- and	Oct	230	Improved Pin-hole Detector for Strip Steel	Inn	197
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Gage and Lead Checker, Pitch-diameter	Dec.	220	Measurements, Formulas for Calcu-			Direct-current Armored Motors	Feb.	223
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Frederick O. Hutchinson	Mar.	160	of. Fred Bohle	Jan.	142	Standard and Severe Duty Motors	Apr.	254
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Gage for Radially Ground Cutters, Sight.				Aug.	246	More and Better Tools for a Bigger		100
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Gage Stamps Code Letter on Pistons,	,	-30	Gear Shapers, Automation-equipped			cial Machine	Aug.	170
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Gage, Stur-D-Aire Amplifier for Air		252	Gear Shaver with Semi-automatic		900		Mar.	214
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Gages, and Cutting Tools; DoALL Saws,			Gear-shaving Machine, Improved Red			Supermetric Chasers	Sept.	328
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Comparator for Checking Tapers			Grinder for Form Grinding Precision	Dec.	216	Grinding Machines and Optical Com-	Oct.	214
Helical Spring Cut from Tubing			Parts, DoALL Automatic Surface	Mar	219	parator, Covel	Sept	. 270
Rotating Lathe Cutter-head De- signed to Machine Awkward Trun-			Grinder for Single-point Tools, Wet or			Grinding Machines, Arter Rotary Sur-		
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flight Gage for Radially Ground Cut-			face	Sept	245	Grinding Machines, Besly-Welles Pre-	2000	
Lathe Fixture for Eccentric Turn-	July	210	Grinder, Haskins Turbine Type Air	Oct.	217	cision	Sept	. 232
ing	Aug.	199	Grinder, Heavy-duty Grinder, Jig Borer, and Radial Drilling	May	196	Grinding Machines, Blanchard Vertical- spindle Surface	Sept	189
Gib-head Keys, Simple Extractor for.			Machines; Fosdick Jig	Sept	274	Grinding Machines, Bryant Boring and		
Giddings & Lewis Machine Tool Co.:	. May	186	Grinder, Jones & Lamson High-produc-	Man	100	Internal	Sept	. 291
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tical Turret Lathe		212	Grinder, Rogers Cabinet Base Knife and Face		207	Grinding Machines, Gardner Double- disc	Sept	222
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Gilat, Alexander R.; Ball Bearing Serves as Planetary			Grinder, Thor Air	May	216	Grinding Machines: Jones & Lamson	Mar	. 248
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Gishoit Machine Co.:			Tool	May	199	Grinding Machines, Landis Universal		
Masterline Series of Machine Tools Accurate Contouring with Versatile	Sept	. 184	Grinder with Motorized Spindle, Face	Aug.	222	and Plain Cylindrical		202
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Gits Brothers Mfg. Co.: Shaft Seals	Dec	226	Grinders, Comparator, Threading Unit,			Landis	Sept	. 262
Lubrikit Assortment of Gil-cups			and Centering Machine; Sheffield Form	Sent	214	Grinding Metals, Bond Abrasive Seg- ments for	May	200
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Know Your Cutting Fluids:	Man	180	and Ball-bearing Ways for Hydrabra-	D	000	Facilitates. Samuel Rosen	Oct.	210
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Glass-powder Molds, Precision Cast-			Grinders, Thor Series of Air-operated			Grinding Precision Lead-screws from		
Glass Tubes Machined to Extremely	July	161	RotaryGrinders, Variable-speed Snagging	June	106	the Solid. M. C. Sulander and W. F.	*****	
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Gleason Works: Quenching Press Equipped with Au-			Grinding Adaptable to Automation, Sur- face	Non	101	Grinding Titanium with Abrasive-coated Belts, Recommendations for. Hugh N.		
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Globe Division, Casalbi Co.:			Life, Liquid-chemical	Aug.	175	Grinding Tools, Buckeye Portable Air		
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Goston Machine Co. Goston	Dec.	143	Grinding and Gaging V-8 Crankshafts,			Differential Screw Assembly for a		
Gorton Machine Co., George: Mastermil Vertical Milling Machine			Landis Integrated Production Line for	June	202	Slide	May	180
with Turret Type Swivel-head	Sept.	294	Grinding and Milling Machines and Ac-			Groove-checking Comparator Gage	Apr.	240
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Gould & Eberhardt, Inc.: Gear-cutting Machines and Shaper	Sent.	276	Grinding Angles and Rounded Corners, Fixture for Use in. J. Randolph Lucas	Aug.	198	mula for Checking V-shaped	July	211
Gould, R. K.;	o-p-		Grinding Attachment for Moore Jig			Roy Automatic Slotting and Deburr-		
Know Your Cutting Fluids:		180	Grinder, Blot-	Oct.	250	ing Machine	Nov.	218
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Gould, S. P.:			Grinding, Centerless, see Centerless			Guide Pins and Bushings, Producto		
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Adjustable Stroke	MUV.	101	Grinding Equipment, Heald Boring and	Sept.		FitGuided Missile Gear Generator Indexed	Aug.	220
a Specified Volume	May	178	Grinding Fixture, Apex Tools, Holders,			by Counting Fringe Patterns. Warren		
Government Cut This Waste? Why	A	157	and Radius	Mar.	214	Ashenfelder	July	200
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Dial Type Universal Milling Machine	May	197	Grinding Machine and Automatic Screw			Gun Drills, Chicago-Latrobe Carbide		
Gray Co., G. A.:			Machine, Gear	Sept.	208	Gun for Steam Cleaning, Oakite Hurri-		
Handymill Milling Machine, Planer, and Boring Mill	Sept	210	Approlap, Norton Cylindrical	Nov.	216	Gun, Guardair Safety Air		
"Sky Hook" Speeds Cutter Set-up			Grinding Machine and Turret Lathe,			300, 300 and 3	raug.	
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Hardening and Tempering	May	167	Grinding Machine, Bryant Vertical					
Graymills Corporation:		204	Model Centalign Automatic	Aug.	202	Hadco Engineering Co.:		
Superflo Coolant Pumping Units Stock-oiling System for Press	Mar.	204	mill	Jan.	200	Axle Production Doubled with Auto- matic Cycling Lathes	You	149
Operations	May	216	Grinding Machine, Drum Type Fixture			Hagins, J. E.:	Jan.	141
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Greaves Machine Tool Division, J. A.			fering Hypoid Gear Teeth		211	Hallenbeck, George E., Obituary of Haller, Inc.:	July	272
Fay & Egan Co.:			Grinding Machine, Grand Rapids Hy-	-	900	Screw-head Slotting Machine	Dec.	224
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zontal Milling Machine			face	Sept.	254	Adjustable Gage Checks Wide Range of Tapers	Oct.	209
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Slotting Attachment for Milling Ma- chine	Mar.	238	Grinding Machine, Mattison Combina-	NOV.	190	Lathe Tool	Nov.	196
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Viae	Apr.	254	Grinding Machine, Mattison Redesigned	-		Simple Fixture for Producing		
Greenlee Brothers & Co.: Auger-bit Machine and Bar Auto-			Surface	July.	.219	Spherical Flares on Tube Ends	Feb.	200
matic	Sept.	215	Grinding Machine, Precision Surface			Tapping Fixture for Die-cast Part Indexing Type Lathe Fixture for	Apr.	212
Greensward, J. D.:			Grinding Machine, Reid Precision Sur-			Machining Projections	May	183
Efficient Mamifacture of Large Elec- trical Power Equipment Calls for			face	Sept.	312	Lathe and Gaging Fixtures Locate		
Modern Machines	Sept.	236	Grinding Machine, Van Norman Auto-		999	Work from Internal Groove Tapping Fixture for Holding Spheri-	June	192
"GRIND Air-rester" Heavy-duty			matic-cycle Plunge-cut	sept.	238		July	207
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Stocking Small Parts	Jan.	215	Heating Unit, Turntable Heidrich-Nourse Co.:	Feb	232	Honemaster with Constant Pressure System	Ium	e 20
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Sheet Feeder for Presses	May	201	Heinrich Tools, Inc.: Work-holding Fixtures and Vises	Mar	. 212	Jet Engines		
Mechanical Presses Built in Wide			Heliwelder, Alternating- or Direct- current	Aug	224	Microflat	Mar	. 246
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Hobbing, Drilling, and Tapping Ma- chines	Sept	287	Thirty-two-speed Geared-head Lathe	Sept	. 202	Honing Machines; Barnsdril Transfer, Drilling and	Sept	299
Hobbing Machine of "Alternate" De-			Henry & Wright, Division of Emhart			Honing Tools, Barnesdril. Coolant Fil-		
Portelvator Elevating Tables			Mig. Co.: Dieing Press Yields Sixty Clutch			ters, Separators, and	Mar	. 203
Hamilton Watch Co.: Diamond Tools for Mirror-finish			Plates a Minute	Oct.	202	ing	Apr.	230
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Handles for Machine Tools, Plastic			Isotopes in the Machine Shop  Net Profits—Before or After	NOV.	139	Horner, Robert A., Obituary of	Apr.	275
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Hannifin Corporation:	Sept		Clinic for Tooling Problems	Feb.	145	Chuck with Controlled Centering Pressure	Jan.	306
Solenoid Heads for Pilot-Master Valves	Oct.	248	Toding for Tomorrow—on Exhibit Today	Mar	141	Controlled Centering-pressure Chuck	Man	204
Hansen, J. R.:			Why Doesn't the Government Cut			Lightweight Universal Chuck with		
Synchronized Quad Vernier Dividing Head	Apr.	210	This Waste?	Apr.	107	Controlled Centering Pressure Hose Clips, Two-stage Bending Die for.	May	211
Hanson-Van Winkle-Munning Co.:	rep.		Engineers' Need of Wider Practical		120	Federico Strasser	Nov.	694
Bright Nickel-plating Process with High Leveling and Speed	June	177	Knowledge	June	139	Hoskins, M. S.: Precision to a Fraction of a Light		
Hanson-Whitney Co.:			Forward	July	137	Wave	Mar.	190
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Hardening and Tempering, Axle			Hercules Drill	Jan.	200	ing Shop	Oct.	196
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tion and Flamatic	Mar	195	Pointers	June	189	chine	Mar.	203
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tion Machines, and Lathes High-speed Precision Lathe with	Mar	195	Higgins, A. P.: Tracer-controlled Machines Speed			Motors Built to Reduce Starting Shock	Feb.	224
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Hardness Tester, Automatic Rockwell Hardness Tester, Bench Type Brinell			High Speed Hammer Co., Inc.: Sensitive Drilling Machine	June	222	Gears with Only 0.0005-inch Total Composite Error	Aug	144
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Hardness Testing Machine with Sorting and Marking Features, Brinell	Jan.	187	formance of. F. J. Pohlmeyer	Mar.	152	Hunt & Son, Inc., C. B.: Quick-As-Wink Control Valve	Aug.	234
Harduty Drills and Reamers, Chicago-			Automatic Machine for Drilling			Hurriclean Gun for Steam Cleaning,		
Harper Electric Furnace Corporation:	Feb.	223	Condenser Tube Sheets	May	210	Hurth Automatic Keyway and Slot Mil-	Feb.	230
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Threading Machine	Feb.	213	Hirschmann Co., Inc., Carl: Precision Jig Borer	Non	210	tion: Tracer Lathe	Seet	107
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Drilling and Milling Machines Hartford Steel Ball Co.:	May	206	Hitchcock & Sons, Inc., R. C.: Blast-cleaning Barrel Designed to			Boost Output of	Apr.	164
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Haviland Products Co.: Soluble Emulsifiable Oil Type			Production of Helical Gears	Sept.	276	Blank-holder and C-frame Presses	Sept.	
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Hawksworth, Douglas G., Obituary of Haxton Gear Co.:	Oct.	268	Hold-downs, and Pocket Scriber;	Wah	226	Huge Plastics Injection Molding Ma-		
"Little Giant" Gear Reduction Unit	Apr.	229	Planer Gages, Magnetic Holder Permits Independent Tool	F 60.	223	Plastics Molding Machine	Mar.	250
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Multiple-station Bore-Matics			Holes by the Disc Method, Accurate			Hydrolair Presses, Eimes	Mar.	
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Small Laboratory Furnace	July	248	Lathe with Automatic Cycle Control,	Gent.	904	Walker-Turner	June	206
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Long-stroke Aluminum Extrusion Press	May	194	Lathes and Boring Machine, LeBlond	Sept.	285	Lights, Dialco Oil-tight Indicator		
Gigantic Forging Press with Side			Lathes and Drilling Machines, Lo- Swing	Sept.	289	Lights, New Pilot Limbach, Lawrence M.;	Mar.	202
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duction	Nov.	216	Lathes, Optical Comparators, and Grind-	Sept.	242	Liners, Non-distorting Chuck Facili- tates Machining of Cylinder, Herbert		
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High-strength Steel Bar Which Re- quires No Heat-treating	Aug.	174	Lathes Turn and Burnish Railroad Car	14	196	Tempered Beryllium-copper Wire		-
LaSalle Tool Inc.:		-	Axles, Special-purpose Latora, Carl:	May	112	for Forming Complex Shapes "Little Giant" Gear Reduction Unit,	Jan.	170
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Panels, General Electric Service En- trance	Apr	226	Automation of Crankshafts Speeds V-8 Production	Jan.	123	Press, Benchmaster Multiple-ram Press, Bliss Die-tryout		
Pangborn Corporation:			Pneumatic Impact Machine	Dec.		Press Brake and Squaring Shear, Lodge		
High-production Descaling Machine Blast-cleaning Barrel Designed to		231	Pohlmeyer, F. J.: Improving Performance of High-			& Shipley Power	Sept.	
Perform Two Functions	Feb.	214	speed Steel Tools Pointers, Intermittent Rotation for In-	Mar	. 152	Press Brake, Rotex	Dec.	221
Paper Drills, Flame-plated	Apr	262	strument. George G. Herzl	June	189	Shapers,	Sept.	216
Parker, Leo T.: Breach of Contract Without Damages	May	187	Polariscope, Simple Gear Drive for a. Paul Grodzinski	May	180	Out Four	Dec.	911
Part-numbering Equipment	Apr	252	Polisher for Wide Work	June	222	Press Brakes, Front-operated Power		
Paste Form, Stainless-steel Brazing Alloy in	Apr	187	Polishing Compound, see Compound Polishing Die-castings, Techniques in.			Back-gage for Niagara Press Brakes, Hydra-Power and Di-	Aug.	200
Pattern Process, Glascast Disposable	July	161	T. P. Barbicane	Feb.	167	Arco	Sept.	244
Paul Machine Tool & Die Works: Self-contained Four-column Hy-			Polishing, see also Sanding Polymer Corporation of Pennsylvania:			Press Equipped with Air Clutch, Fed- eral	Nov.	220
Paulsen, Carl E., Obituary of	Jan.	198	Heat-and Chemical-resistant Plas- tic Is Readily Machinable	Dec	107	Press Equipped with Automatic Unloader	r,	
Payne, Frank Edward, Obituary of	Feb.	258	Nyton Tubing Solves Maintenance	Dec.	101	Gleason Quenching	Dec.	411
Pendulum Indicates Centering of Lathe Tool, W. M. Halliday	Nov	196	Problems on Metalworking Equip- ment	Aug.	174	Press Features Automatic Speed Varia-	Aug.	212
Permadizing Bonding Process	Nov.	176	Polymer Processes, Inc.:			tions During Cycling, Farquhar Draw-		
Pesak, Frank J.: Universal Die Cuts Cost of Impact			Process for Coating Objects with Plastic Materials	Apr.	187	Press, Double-crank Open-back	Apr. May	
Extruding at North American	July	194	Polypenco K-51 Plastic	Dec.	187	Press, Heavy-duty Punch	Aug.	215
Philadelphia Gear Works: Speed Reducer for Conveyor Drives	Jan.	216	Polystyrene Compounds Now Available, Four Additional	June	176	Press Kenco Electro-Safe		
Philips & Davies, Inc.: Hydraulic Press	Feb	222	Pont, W.: Blocking Device for a Geneva Wheel	Jan	172	Press, Long-stroke Aluminum Extru-	May	104
Photo-process, Scaling Enlarged Draw-	reu.	222	Pope Machinery Corporation:			Press, Manley Air-operated		
ings to Actual Size by the George G. Herzl	May	186	Precision Boring Machine Boring, Grinding and Milling Spin-	5ept.	196	Press, Metal-powder Compacting Press of Improved Design, Bliss Link	Oct.	220
Pickett & Eckel, Inc.:	,		dles	Mar	215	Type Underdrive	Feb.	210
Green-yellow Slide Rule Developed to Save Eyes	Mar	236	Heavy-duty Milling Spindles Popper, B. J.:	Aug.	228	Press Operation, Soldering Combined with	May	169
Pictures, see Motion Pictures, In-			Dual Gear Train Diminishes Back-	Dec	102	Press Operations, Stock-oiling System		
dustrial Piece-Maker Press, Minster	Sept	225	Counting Device for High-speed			Press, Philips & Davies Hydraulic	May Feb.	
Pilot-Master Valves, Hannifin Solenoid Heads for			Operation	Apr.	208	Press, Punch, Drill, see also Punch,		-
Pins, American Standard Machine (Data	Oct.	240	Rand	Nov.	236	Drill Press; Rodgers Drawing, Forming, and		
Sheet): 1	Jan	212	Portage Double Quick Tool Co.: Sure-Bore Boring-bar Cartridge		229	Molding	Aug.	206
2 and 3	Feb.	235	Groove-checking Comparator Gage	Apr.		draulic	Jan.	198
4 and 5	Mar,	267	Portage Machine Co.: Boring, Drilling, and Milling			Press, Self-contained Pneumatic Ejec- tion System for Punch. O. Lichtwitz	Jan.	173
Piston-balancing Machine, Morris			Machine	Sept. May		Press, Stokes Toggle Type Molding	Dec.	
Automatic Piston-drilling Machine, Special High-	NOV.	200	Positioning Table, Jigmatic Electronic	may	200	Press, Television Shows Eccentric Loading of Forging	Jan.	152
production	May	194	Digital	Oct.	214	Press Unloading Device, Hamilton Mo-		
Stamps Code Letter on	May	195	Punching Machine, Wales-Strippit	Mar.	202	Press with Left-to-right Gear Drive,	Sept.	
Planer, and Boring Mill; Gray Handy- mill Milling Machine,	Sept.	210	Post Co., Frederick: Blutex Tracing Vellum	July	225	Bliss Two-point Enclosed Press with Side Rams, Gigantic Forging	June Aug.	
Planer, and Slotter; Rockford Shaper,			Pot, J. J.: Double Clutch Permits Reversal of			Press Yields Sixty Clutch Plates a		
Planer Built to Machine Huge Castings, Niles Giant-size Convertible	Jan.	182	Driven Shaft	June	190	Minute, Dieing. Herbert Chase Presses, Air-operated Slide Feeds for	Oct.	202
Planer Gages, Magnetic Hold-downs, and			Potentiometer-recorder Potter & Johnston Co.:	Apr.	240	Power	Dec.	219
Planer-miller, Giddings & Lewis Large	Sept.		Turret Lathes	Sept.	261	Presses Assemble Automotive Heater Controls, How Small, Raymond F.		
Planer, Rockford Heavy-duty Open-side Hydraulic Shaper-	Nov.	219	Power Equipment Calls for Modern Machines, Manufacture of Large Elec-			Gamundi	Aug.	191
Planer with Elecdraulic Control, Rock-			trical, J. D. Greensward Power Units, Ex-Cell-O Cam-operated	Sept.	236	ties, Hamilton Mechanical	Jan.	192
ford Heavy-duty Hy-Draulic	July	220	Boring Machines and Quill Type Hy-			Presses, Clear-Flo Lubrication System for	July	218
	Oct.	215	Power Units, Light-duty Oil-hydraulic	Oct.		Presses, Clearing Air Control Mani-		
Slot Grinder	Dec.	219	Power Units, Varidyne	Aug.		foid for	Aug.	223
Plants, What An American Engineer Saw in Soviet Industrial. Nevin L.			Poweramic Carbide Tool Grinder, Wes- son	May	199	with Versatility, Clearing Presses Compact Small Abrasive	Aug.	204
BeanP	eb. 16	52-A	Powerfeed Milling Machines, Quartet and	Mar.	200	Wheels, Hydraulic, S. Spicer Kenyon	Dec.	183
Plastic Compressor Blades for Jet Engines	Apr.	172	Powermatic Milling Machines, Cincin-			Presses Displayed at Machine Tool Show, Clearing	Sept.	284
Piastic Handles for Machine Tools			nati	July	221	Presses, Elmes Hydrolair	Mar.	
Plastic Insulation, Motors with Ex- truded	June	218	Equipment, Lodge & Shipley	Sept.	200	Presses Equipped with Air-Operated Clutch and Brake, Multi-Max	June	212
Plastic Is Readily Machinable, Heat- and Chemical-resistant	Dec.	187	Powerturn Lathes, Lodge & Shipley Copymatic and	Nov.	204	Presses, Fluid-power Gooseneck	Apr.	236
Plastic Materials, Process for Coating			Powromatic, Automatic Welding Unit for Pratt & Whitney Co., Inc.:	Aug.	234	Presses for Piercing and Trimming Plastics	Nov.	232
Objects with	Apr.	187	Grinding and Milling Machines and			Presses for Work Requiring Long Dies, Niagara Gap-frame Double-crank	Nov.	211
shaped Parts	Dec.	155	Accessories Electrolimit Gage and Squareness	Sept.	255	Presses, Four New Lines of Bliss	Sept.	
Plastics Injection Molding Machine, Huge H-P-M	Jan.	188	Thread-checking Fixture		216	Presses, H-P-M Blank-holder and C- frame	Sept.	186
Plastics Injection Molding Press,	Nov.	210	New England Generating and Measur- ing Equipment	Mar.	221	Presses, H-P-M Giant Size	Oct.	
Plastics Molding Machine	Mar.		Diaform Attachment for Forming Complex Contours on Grinding			Presses, Hamilton Double-crank Straight-side	Dec.	218
Plastics Press, Huge H-P-M Rein- forced	Oct	216	Wheels	June	205	Presses, King Vertical Boring Machines		
Plastics, Presses for Piercing and			Precision Thread & Gear Corporation: Precision Lead-screws Ground			Presses, L & J	Sept.	
Trimming	Nov,	232	from the Solid	Мау	146	Presses, New Series of Ferracute		
Plating Plant, Oil Derrick Put to Work at	Nov.	163	Preselector Dyna-Shift Lathes, Monarch New Series	Jan.	19#	Sheet-metal	Sept.	195
Plating Process Deposits Crack-free			Preselector for Monarch Precision			Presses, Niagara Styleline Deep- throat	Feb.	215
Chromium, New "PLI" Washers Insure Tighter Joints	Oct.	193	Lathe, Electrical Preselectors and Programmers for	Apr.	223	Presses, Shears, and Press Brakes;		
with Uniformly Preloaded Structural	N7	950	Radial Drilling Machine	Sept.		Presses, Sheet Feeder for	Sept.	
Bolts	Nov.	258	Press, Air-operated Press, Ailen Bench Type Open-back	Aug.	223	Presses, Single-crank Straight-side	May	
Tailstock, Frank E. Chace	Nov.	195	Inclinable	Nov.	224	Presses, Steelweld Shear and	Sept.	

Presses, Wilson Adjustable-bed Hy- draulic Gap	Sept	. 303	R			Replacement Helical Gear Dimensions from Easily Made Measurements,		
Presses with Box Type Rams, Double- crank	May	198	Rack-milling Attachment for Greaves		200	Formulas for Calculating (Data Sheet) Republic Steel Corporation:	Jan.	21
Presses with Provisions for Quick In- stallation, Minster	Sept	. 225	Radar Control Gears with Only 0,0005-		209	Increased Use of Stainless Steel in Aircraft Predicted	June	184
Printing Press Fountains, Vibrating Roll Drive for, H. B. Schell	Aug.	195	inch Total Composite Error, Airborne. Charles O. Herb	Aug.	143	Resin, Porous Metal Casting Sealed by	Feb.	177
Production Machine Co.: Centerless Grinding and Finishing			Radii, Fixture Facilitates Grinding of Spherical, Samuel Rosen	Oct,	210	Resin with an Eight-day Pot Life, Fluid Epoxy	Apr.	186
Machines Producto Machine Co.: Automatic Milling Machine Built	Mar	. 203	Radio-isotopes Measure Tool Wear in Metal-cutting. Robert T. Hook Radioactive Agent Employed as Safety	Nov.	141	Resistance Welding, see Welding Resiweld—An Epoxy Resin Adhesive with Good Impact Resistance	Aug.	17!
Around Indexing Table		151	Device	July	203	Revere Copper & Brass Inc.: High-strength Aluminum-alloy Con-		
Index Mili-Matic for Machining Jet- engine Components			Radius-turning Attachment and Tool- holder			ductor Material Tubes Blown into Solid Mill Sheets	Dec.	186
Quik-Fit Guide Pins for Dies Profiling Machines for Processing Jet-	Aug.	226	Rahn Granite Surface Plate Co.: Surface Plate Calibrating Device			Reversal and Adjustable Stroke, Slide with Automatic, S. P. Gould		
engine Blades, Ex-Cell-O	Oct.	236	Rangemaster Knee Type Sliding-head Milling Machines, Brown & Sharpe			Reynolds Metals Co.: Electromagnetic Coils Wound from	NOV.	10,
Profilometer Equipment for Sorting Parts, Automatic	Jan.	203	Ransohoff, Inc.: Automatic Cabinet Type Cleaning	GC.		Aluminum Strip	Nov.	163
Profilometer Roughness Measuring Equipment	Mar	. 214	Machine	Aug.	219	Aluminum Temperatures?	May	187
Profits—Before or After Taxes? Net.			Type Cleaning Machine	Aug.	219	Rice Pump & Machine Co.: Die-filing Machine	Mar.	222
Programmer for Automatic Operation	Bept.	242	Ratchet Mechanism for Over-running			Riddle, Johnny: Why Anti-friction Bearings Fail	Feb.	15
Programmer, Monarch Numerical Sequence	Dec.	215	Drive, Silent. H. B. Schell			Rigidmils and Turning Equipment, Sundstrand	Sept.	301
Programmers for Radial Drilling Ma- chine, Preselectors and	Sept	. 188	Tool with Bonded Ceramic Tip Raydyne Corporation:			"Ring Seal" Tube Fittings, Monarch Rivet-head Chisel. Clifford Molloy		
Progress-Thru Transfer Type Machine, W. F. & John Barnes		. 266	Mogul Balancing Machine			Rivett Lathe & Grinder, Inc.: Grinding Machine and Turret Lathe	Sept.	233
Projectiles, Milling Machine Equipped for Stake-notching Operation on	Aug.	213	and. Edgar Althoiz	June May	141	Solenoid-operated Valve for Hy- draulic Circuits	Jan.	216
Projections, Indexing Type Lathe Fix- ture for Machining, W. M. Halliday		183	Reamers, Chicago-Latrobe Special Drills and	Feb.	223	Robbins Co., Omer E.: Heavy-duty Sine Plates		
Projector, Accessories for Kodak Contour			Reamers, High-production Reamers, Tomkins-Johnson Replaceable			Rockford Clutch Division of Borg-Warne Corporation:		
Projector, Quality Control System Re- lies on Contour			Head	Aug.	246	Rockford Machine Tool Co.:	Jan.	204
Projectors, Kodak Heavy-duty and Portable Contour			trunnion Index Machine for Drilling and and	July	229	Shaper, Planer, and Slotter	Sept.	293
Prosser & Son, Thomas: Turntable for Tool Grinder			Reaming Tool, Combination Boring and. A. G. Amos		206	Shaper-planer		
Proto-turning, Rotary Cutters Used in Pulley for Limited Space Applications,	Mar	. 180	Rear-axle Housings, Automated Stamp- ing of, Charles H. Wick			Heavy-duty Hy-Draulic Planer with Elecdraulic Control		
Lovejoy Variable-speed	Dec.	240	Reciprocating Drive Functions Around Roller Chain, Robert B. Ogder			Rockwell Mfg. Co.: Valve Lubricant		
Large Stampings			Reciprocating Motion, Mechanism for Effecting a Varying, L. Kasper			Rod-bending Machine, Chute-fed Auto- matic		
Pump Bodies, Buhr Economatics Equipped to Machine Water-			Recorder Designed for Machining and Processing Operations, Time			Rodgers Hydraulic, Inc.: Drawing, Forming, and Molding	•	
Pump Bodies, Michigan Special Machine for Processing Implement			Recorder for Sheet Material, Federal Air Gage			Press	Aug.	206
Pump Bodies, Transfer Machine for Processing Oil-			Recording Test Results, Automatic	Dec.		Cabinet Base Knife and Face Grinder	Dec	205
Pump, Rumco Centrifugai	Feb.	238	Red Arrow Precision Collets	Sept.		Roll Follower for a Vertical Milling		
Pumping Corrosive Fluid, Roller Chain Used for, Worth M. Barton				Oct. May	228	Roll Forming Machine, Slip  Rolls Accurately Machined on an Engine	May	
Pumping Units, Superflo Coolant Punch, Center, see Center	Mar,	204	Red Ring Gear Checker for Inspecting Internal Gears			Lathe, Tubing	Jan.	158
Punch Press, Allen Bench Type			Red Ring Gear Production Equipment and Broaching Machine			and Non-ferrous Metals	Nov.	
Punch Press Vnits, Unipunch Line of			Red Ring Gear-shaving Machine, Im- proved			Roller Bearing with Separable Outer		
Punch Press, Wiedemann Automatic Turret	Nov.	217	Red Ring Gear Speeder Equipped with			Base		
Punch Press with Safety Features, Ken- co Deep-throat			Red Ring Internal Gear Shaver with			Rolling Attachment, Landmatic Die-		
Punch Presses for Short Runs Punch Presses, Pneumatic Slide Feed			Semi-automatic Loader Red Ring Shaving Machine for Producing	Aug.	220	Rolling Heads, Self-opening Thread	Mar. Apr.	
Funch Presses, Rousselle			Thin-tooth Sections in Flanks of Spur- gear Teeth	Mar.	235	Rolling Machine, Reed Cylindrical Die Thread-		
Punch Products Corporation: Unipunch Line of Punch Press Units			Red Tang Files, Simonds	Feb.	212	Rolling Machine, Roto-Flo Spline Rolling Machine, Roto-Flo Spline- and	Oct.	
Part-numbering Equipment Punched Card Controls Lathe			Reduction Unit, Haxton "Little Giant" Gear	Apr.	229	Thread Rolling Machine, Sheffield Thread	Aug. May	192
Punches, Oakite Soluble Oil in Sponge Lubricates	Feb.	264	Reed-Prentice Corporation. Injection Molding Machine	Aug.	212	Rolling Sheet Metal into Housings for Washing Machines. Herbert Chase	Jan.	154
Punching Controlled from Cardboard Template, Accurate. Charles H. Wick Punching Machine, Wales-Strippit	Jan.	134	Reed Rolled Thread Die Co.: Cylindrical Die Thread-rolling Ma- chine	Sept.	292	Rollway Bearing Co.: Roller Bearing with Neoprene Hous- ing	Dec.	240
"Positive Duplicator" for Sheet- metal	Mar.	202	Reel for Press, Centering	Apr.	225	Roller Bearing with Separable Outer		
Putty, Casting Scrap Loss Reduced by Using Aluminum			Riements of Cam Design:	Aug.	184	Romulus Tool & Engineering: Hydro-Cycle Three-dimensional		
			Refrigeration Parts, Heald Multiple- station Bore-Matics for Automotive			Milling Machine	Apr.	226
0			Refrigerator Parts, Ex-Cell-O Machine Equipped to Bore and Chamfer	Mar.		Fixture Facilitates Grinding of Spherical Radii	Oct.	210
Quartet and Powerfeed Milling Ma-		***	Regulator, Elox Line-voltage			Ross, Herbert V.: Machine Tools in Nuclear Research	Sept.	278
chines			Precision Surface Grinding Ma-	Sant	312	Ross Operating Valve Co.: Solenoid and Cover for Valve	Feb.	227
Juartet Milling Machine with Indexing Spindle	Jan.	187	Reliance Electric & Engineering Co.: Adjustable-speed Drive			Multi-purpose Valve Valve-testing Machine	May	224
Quenching Oil 23, Shell			Gear-motor	Aug.	246	Rossate, C. S.: Television Sets Cost Less Because		
matic Unloader, GleasonQuick-As-Wink Control Valve	Dec.	234	Machine Tools—An Important Factor in Air Supremacy		108	of Automation		
Quik-Tool Attachment for Monarch Lathes	Feb.	218	Replacement, A New Approach to Ma-			Rotary Grinders, Thor Series of Air-		
Qwik-Fit Guide Pins for Dies, Producto	AUE	228	chine, B. A. Margo	Nov.	1.90	operated	June	220

Rotary Indexing Machines; Kearney &			Sales Service Machine Tool Co.:			Scripta Three-dimensional Engraving		000
Trecker Milling, Boring, Drilling, and	Sent	280	Keiler Die-filing Machine	Mar	. 220	Machine Scully-Drift Tool Ejector	June	226
Rotary Table, Knight Power-feed	Sept	. 189	Match-plate Metal Now Employed			Scully-Jones & Co.:	June	230
Rotary Table, Precision Optical Rotary Tables, Pratt & Whitney	Dec	238	for Castings Sailoy Match-plate Metal Now Em-	Feb.	177	Safe-Torque Tap Drivers	Sept.	188
Rotation for Instrument Pointers, Inter-			ployed for Castings	Feb.	177	Close-center Tap-drivers and		
mittent. George G. Herzl Rotex Punch Co., Inc.:	June	199	Sanding Disc, Kwik-Sand Saw, Band, see Band	Dec.	240	Heavy-duty Tap-holders Safe-Torque Tap Drivers	Mar.	218
Universal Vertical Head for Hori-			Saw, Dial Indicators, and Radius Gages;			Lock-and-Eject Adapters for Drills		
zontal Machines			Starrett Micrometer, Hole	Sept	. 322	and Taps	Apr.	225
Press Brake	Dec	. 221	Saw, General Electric Motor for Motch & Merryweather	Feb	219	Tap Driver, Chuck, and Drift Tool Ejector	June	236
Radius Dresser	Aug	238	Saw, King High-speed Friction	Sept	264	Pin Type Arbor for Holding Gears	o dine	200
Rotoblast High-production Descaling			Saw of Increased Capacity, Wells Cut-			with Involute Splined Bores		
Machine, Pangborn Roto-Flo Cold-forming Process. Charles	Oct.	231	off	Oct,	242	Seals, Gits Shaft	Dec.	197
H. Wick	Jan.	177	Saws, Millers Falls Deep-Cut Hole			Searcy, Eugene:	may	191
Roto-Flo Spline- and Thread-rolling			Sawing and Milling Machines, Motch &			Merry-Go-Rounds Speed Rubber		
Machine	Aug	205	Merryweather	Sept	254	Forming	Jan.	162
Roto-Mation, Inc.:	Oct.	217	Sawing Costs, Test Conducted by Arm- strong-Blum to Determine Actual	Sent	224	Sebastian Lathes, Sheldon and Segments for Grinding Metals, Bond	Sept.	200
Oscillating Torque Motor	Mar	. 226	Sawing on Contour-matic, DoALL Auto-			Abrasive	May	200
Rottler Boring Bar Co.:	Dec	210	matic Production	Mar	. 219	Selas Corporation of America:		
Tube-boring Machine	Dec.	210	Scales for Cranes, Weighing Scaling Enlarged Drawings to Actual	Aug.	224	Heat Processing Equipment	Mar.	214
Automatically According to Surface	Jan.	202	Size by the Photo-process. George G.			Shows Are Over, Charles O. Herb	Oct.	153
Roughness, Instrument for Measuring Surface	May	208	Herzi	May	186	Seneca Falls Machine Co.:		500
Rousselle Punch Presses			Schaublin Lathes, Cabinet Stand for Schauer Mfg. Corporation:	Mar	. 231	Lo-Swing Automation Installations Platen Type Automatic Lathes De-	sept.	289
Rowley, J. H.:			Speed Lathes	Sept	. 230	veloped to Handle a Wide Variety		
Round Drop-hammer Dies Provide		102	Schell, H. B.:			of Work	May	190
Important Economies	Apr.	103	Stient Ratchet Mechanism for Over- running Drive	Jan	171	Automatic Lathe Equipped for Spe- cialized Production Job	July	226
Automatic Slotting and Deburring			Rotating Crank that Provides a			Separator and Filter, Delpark Magnetic	July	
Machine	Nov.	218	Dwell in Reciprocating Motion	Apr.	208	Separator and Filter, Magnetic Coolant	Feb.	
Internal Grinding Attachment	Mar	. 198	Rotary Scrap-stripping Device Vibrating Roll Drive for Printing	мау	179	Separator and Filter, Up-Flo Magnetic Sequence Programmer, Monarch Nu-	May	212
"RPMster" Drilling Machine and			Press Fountains	Aug.	195	merical	Dec.	215
Bending Roll Adjusting Device, Buffalo	Sent	247	Scherr Co., George:			Serrations on Hardened Shafts, Buick		
Rubber & Asbestos Corporation:	sept	641	Toolmaker's Microscope Bench Micrometer			Cold-forms, Charles H. Wick Service Machine Co.:	Jan.	177
One-part High-strength Epoxy Ad-			Mauser Stainless-steel Vernier			Rousselle Punch Presses	Mar.	223
hesive Bonds Metal Rubber-to-Metal Bonding Process	Feb.	177	Caliper	Feb.	230	Sesco Inc.:		
Developed, Precision	Nov.	176	Gram Spring Tension Gages Scherr Optical Tools, George:	Aug.	210	Centering Reel for Press Power-lift Coil Loader	Apr.	235
Rumco Centrifugal Pump	Feb.	238	Optical Measuring and Inspection			Coti Handler		
Russell, Burdsall & Ward Bolt and Nut Co.:			Equipment	Sept.	221	Set-screws, Bristol Automatic Hopper		200
Bolt Stresses Not Always Increased			Precision Optical Rotary Table Schrader's Son, Division of Scovill Mfg.	Dec.	230	Feed for Set-screws, Lock Fasteners, and Stor-	June	220
by External Loads	May	163	Co., Inc.:			age Units; Standard Pressed Steel Co.		318
"Rust Chek"—A Rust-preventive Spray for Tools, Molds, and Dies	Aug	175	Lub-Air-Ator for Protection of Air- operated Tools, Cylinders and			Sets for Metal-cutting Band-saw Blades Sever-All Oscillating Cut-off Machine		
Rustripper, Oakite			Valves	Sept.	356	Shaded-pole Motor, G-E Totally En-	3 mile	211
Ruthman Machinery Co.:			Air-operated Press	Aug.	223	closed	Aug.	211
Rumco Centrifugal Pump	Feb.	238	Sciaky Bros., Inc.: Air-operated Seam Welder	May	197	Shakeproof Power Screwdriver of Ver- satile Design	June	212
"Doing It Better"			Resistance Welder with Precision			Shaper, Gould & Eberhardt Gear-cut-	44	
Building Power into Jet Engines			Timing Control Scott Paper Co.:	May	212	ting Machines and	Sept.	
Ryerson & Son, Inc., Joseph T.:	Aug.	101	Industrial Wiper	Sept.	296	Shaper, Planer, and Slotter; Rockford Shaper-Planer, Rockford Heavy-duty	sept.	293
Heat-treated or Annealed Lead-	_		Paper Wipers	Mar.	250	Open-side Hydraulic	Nov.	219
bearing Steel Available Lead-bearing Free-machining Steel	Dec.	186	Scrap-stripping Device, Rotary, H. B. Schell	May	170	Shapers, Automation-equipped "Shear-	0	200
Plates	Jan.	169	Screw Assembly for a Slide, Differen-	may	110	Speed" Gear	Dec.	20.9
Mechanized Flame-cutting Process	Mar.		tial, Paul Grodzinski	Oct.	205	Cincinnati	Sept.	218
New Color Identification System for	Ana	170	Screw Machine, and Horizontal Mill; Elgin Precision Hydraulic Tracer			Shapers, SAJO Milling Machines and	Man	100
Steel	Aug.	110	Lathe, Hand	Oct.	226	VMA	Mar.	130
Joints	Dec.	236	Screw Machine Design, Cutter and			X'' Tool		215
			Coolant Influence, Claude R. Morgan Screw Machine, Gear-grinding Machine	Jan.	163	Shaver with Semi-automatic Loader,		200
C			and Automatic	Sept.	208	Internal Gear Shaving Conical Involute Gears, New	Aug.	220
$\mathbf{S}$			Screw Machine of "Unit-Construction" Design	Non	200	Process for	Oct.	169
Safe-Torque Tap Driver, Scully-Jones	June	236	Screw Machine Tools, B & S Hite-Set			Shaving Machine for Crown-shaving		
Safe-Torque Tap Drivers	Sept.	188	and	Dec.	236	Extra-large Gears, Red Ring Rotary Gear-	July	214
Safe-Torque Tap Drivers, Scully-Jones	Mar.	221	Screw Machines, Mass Production of Automatic, Edgar Altholz	May	131	Shaving Machine for Producing Thin-		
Saginaw Steering Gear Division of Gen- eral Motors Corporation:			Screw Machines, Milling Attachment			Tooth Sections in Flanks of Spur-	Mar	224
"Frictionless" Design with Bail			for Automatic	Mar.	252	gear Teeth	Mar.	233
Bearing Screws and Splines	Apr.	159	Screw Machines, see also Automatics, Bar Machines			Gear-	Apr.	
Shapers	Mar	198	Screw-slotting Machine, Waterbury			Shaving Machine, Underpass Gear	Apr.	
Sales Managers, Talking With:			Farrel	Dec.	206	Shear and Presses, Steelweid Shear, Lodge & Shipley High-speed	Sept.	204
School Bells Are Ringing	Sept.	360	Screw with Coarse Lead, Attachment for Cutting a, H. J. Gerber	Dec	198	Heavy-duty Power	July	222
Selecting Sales Engineering Person- nel	Oct	211	Screws and Nylon Nuts, Tapping and As-			Shear, Lodge & Shipley Power Press		200
Training Sales Engineers To Sell			sembling	Jan.	196	"Shear-Speed" Gear Shapers, Automa-	Sept.	800
Quality	Nov.	197	Screws and Splines, "Frictionless" De- sign with Ball Bearing, David A.			tion-equipped	Dec.	
Manpower—An Ever-present Prob- lem	Dec	201	Galonska	Apr.	159	Shear-Weld-Trimmer, Morton	Nov.	201
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versal Ram Type. Turning Equipment, Sundstrand Milling and. Twelsiek, Fritz: Direction-changing Drive Twin Disc Clutch Co.: Oil-actuated, Mulitiple-plate Clutches Heavy-duty Friction Clutch Twin-In-Action Coil Handler, Sesco Twisted Loop on Wire Ends, Mechanism for Forming, Ralph T. Stewart Twisting Rod, Cam-jaw Chucks for, Oscar Nagelis	May Sept. Nov. Sept. Dec. Aug. June May	223 261 193 308 189 328 238 208 190	Vacuum Melting, Improved Alloys Produced by Vacuum Metals Corporation: Largest Vacuum Melting Furnace in Operation Valentie Metals Corporation: Holders and Carbide Inserts Valve Bodies, Turret Lathe Fixture with Pivoting Feature for Gate- Valve, Clark Control Equipment and Magnetic Air Valve, Danly Dual Air Valve pand Valve, Circuits, Sole- noid-operated Valve, High-pressure Control Valve Labricant, Rockwell Valve Making, Metallizing Integrated in Valve, Quick-As-Wink Control	June Jan. Feb. Oct. Sept. June Jan. July Oct. Aug.	199 240 220 189 244 240 216 248 238 177 234	Abrasive Cutting Increases in Popularity Consensus Tube Bender Waltham Machine Works: Cabinet Model Pinion- and Gearcutting Machine Warner & Swasey Co. New Attachments Multiple-spindle Automatics, Turret Lathe, and Universal Ram Type Machine Radio-isotopes Measure Tool Wear in Metal-cutting Seventy-fifth Anniversary Celebrated with Open House Universal Ram Type Turret Lathes Washer Electrostatically, Painting the Whirlpool, Dwight Eberly	Oct. July Oct. Sept, Oct. Nov. Dec.	240 238 297 230 141 242 193
versal Ram Type. Turning Equipment, Sundstrand Milling and. Twelslek, Fritz: Direction-changing Drive Twin Disc Clutch Co.: Oil-actuated, Multiple-plate Clutches	May Sept. Nov. Sept. Dec. Aug. June May	223 261 193 308 189 328 238 208 190	Vacuum Melting, Improved Alloys Produced by  Vacuum Metals Corporation: Largest Vacuum Melting Furnace in Operation Valenite Metals Corporation: Holders and Carbide Inserts Valve Bodies, Turret Lathe Fixture with Pivoting Feature for Gate- Vaive, Clark Control Equipment and Magnetic Air Vaive, Dally Dual Air Vaive Dally Dual Air Vaive for Hydraulic Circuits, Sole- noid-operated Vaive, High-pressure Control Vaive Labricant, Rockwell Vaive Maing, Metallizing Integrated in	June Jan. Feb. Oct. Sept. June Jan. July Oct. Aug.	199 240 220 189 244 240 216 248 238 177 234	Abrasive Cutting Increases in Popularity Consensus Tube Bender Waltham Machine Works: Cabinet Model Pinion- and Gearcutting Machine Warner & Swasey Co.: New Attachments Multiple-spindle Automatics, Turret Lathe, and Universal Ram Type Machine Radio-isotopes Measure Tool Wear in Metal-cutting Seventy-fifth Anniversary Celebrated with Open House Universal Ram Type Turret Lathes Washer Electrostatically, Painting the	Oct. July Oct. Sept. Oct. Nov. Dec. May	240 238 297 230 141 242 193
versal Ram Type. Turning Equipment, Sundstrand Milling and. Twelslek, Fritz: Direction-changing Drive Twin Disc Clutch Co.: Oil-actuated, Multiple-plate Clutches	May Sept. Nov. Sept. Dec. Aug. June May	223 261 193 308 189 328 238 208 190	Vacuum Melting, Improved Alloys Produced by Vacuum Metals Corporation: Largest Vacuum Melting Furnace in Operation Valenite Metals Corporation: Holders and Carbide Inserts Valve Bodies, Turret Lathe Fixture with Pivoting Feature for Gate- Valve, Clark Control Equipment and Magnetic Air Valve Daily Dual Air Valve for Hydraulic Circuits, Sole- noid-operated Valve, High-pressure Control Valve Lorent Rockell Valve Making, Metallizing Integrated in Valve Making, Metallizing Integrated in Valve, Quick-Aa-Wink Control Valve, Ross Multi-purpose Valve Seats, Inserted-blade Tools for Machining	June Jan. Feb. Oct. Sept. June Jan. July Oct. Aug. Aug. May Apr.	240 220 189 244 240 216 248 238 177 234 224	Abrasive Cutting Increases in Popularity. Consensus Tube Bender. Waltham Machine Works: Cabinet Model Pinion- and Gearcutting Machine. Warner & Swasey Co.: New Attachments Muitiple-spindle Automatics, Turret Lathe, and Universal Ram Type Machine. Radio-isotopes Measure Tool Wear in Metal-cutting. Seventy-fifth Anniversary Celebrated with Open House. Universal Ram Type Turret Lathes Washer Electrostatically, Painting the Whiripool, Dwight Eberly. Washers Insure Tighter Joinst. with Uniformly Preloaded Structural Bolts, "PLI"	Oct, July Oct, Sept, Oct, Nov, Dec. May June	246 238 297 230 141 242 193 166
versal Ram Type. Turning Equipment, Sundstrand Milling and. Twelslek, Fritz: Direction-changing Drive Twin Disc Clutch Co.: Oil-actuated, Multiple-plate Clutches	May Sept. Nov. Sept. Dec. Aug. June May	223 261 193 308 189 328 238 208 190	Vacuum Melting, Improved Alloys Produced by  Vacuum Metals Corporation: Largest Vacuum Melting Furnace in Operation Valenite Metals Corporation: Valenite Metals Corporation: Holders and Carbide Inserts Valve Bodies, Turret Lathe Fixture with Pivoting Feature for Gate- Vaive, Calrk Control Equipment and Magnetic Air Vaive Daily Dual Air Vaive for Hydraulic Circuits, Sole- noid-operated Vaive, High-pressure Control Vaive Lubricant, Rockwell Vaive Maing, Metallizing Integrated in Vaive, Quick-As-Wink Control Vaive Seats, Inserted-blade Tools for Machining Vaive-testing Machine Vaive-testing Machine	June Jan. Feb. Oct. Sept. June Jan. July Oct. Aug. May Apr. Aug.	199 240 220 189 244 240 216 248 238 177 234 224 250 209	Abrasive Cutting Increases in Popularity Consensus Tube Bender Waltham Machine Works: Cabinet Model Pinion- and Gearcutting Machine Warner & Swasey Co.: New Attachments Multiple-spindle Automatics, Turret Lathe, and Universal Ram Type Machine Radio-isotopes Measure Tool Wear in Metal-cutting Seventy-fifth Anniversary Celebrated with Open House Universal Ram Type Turret Lathes Washer Electrostatically, Painting the Whiripool. Dwight Eberly Washers Insure Tighter Joinet with Uniformly Preloaded Structural Boits, "PLI" Washing Machine, Stoelting Automatic	Oct, July Oct, Sept, Oct, Nov, Dec. May June	246 238 297 230 141 242 193 166
versal Ram Type. Turning Equipment, Sundstrand Milling and Twelsiek, Fritz: Direction-changing Drive Twin Disc Clutch Co.: Oil-actuated, Mulitiple-plate Clutches Heavy-duty Friction Clutch Twin-in-Action Coil Handler, Seaco. Twisted Loop on Wire Ends, Mechanism for Forming, Ralph T. Stewart Twisting Rod, Cam-jaw Chucks for. Oscar Nagelis. Typewriter for Recording Test Results, Automatic Testing Machine with	May Sept. Nov. Sept. Dec. Aug. June May	223 261 193 308 189 328 238 208 190	Vacuum Melting, Improved Alloys Produced by Vacuum Metals Corporation: Largest Vacuum Melting Furnace in Operation Valenite Metals Corporation: Holders and Carbide Inserts Valve Bodies, Turret Lathe Fixture with Pivoting Feature for Gate- Valve, Clark Control Equipment and Magnetic Air Valve, Danly Dual Air Valve, Danly Dual Air Valve, High-pressure Control Valve, High-pressure Control Valve Lubricant, Rockwell Valve Making, Metallizing Integrated in Valve, Ross Multi-purpose Valve Seats, Inserted-blade Tools for Machining Valve-testing Machine Valve, Valve, Valvets Pilot-operated Check- Valve, Valvets Pilot-operated Check- Valve, Valvets Pilot-operated Check- Valve, Valvets Pilot-operated Check- Valve, Velters Pilot-operated Check-	June Jan. Feb. Oct. Sept. June Jan. July Oct. Aug. May Apr. Aug.	199 240 220 189 244 240 216 248 238 177 234 224 250 209	Abrasive Cutting Increases in Popularity Consensus Tube Bender Waltham Machine Works: Cabinet Model Pinion- and Gearcutting Machine Warner & Swasey Co.: New Attachments Muitiple-spindle Automatics, Turret Lathe, and Universal Ram Type Machine Radio-isotopes Measure Tool Wear in Metal-cutting Seventy-fifth Anniversary Celebrated with Open House Universal Ram Type Turret Lathes Washer Electrostatically, Painting the Whirlpool. Dwight Eberly Washer Insure Tighter Joints. with Uniformly Preloaded Bructural Bolts, PLI' Washing Machines, Stoelling Automatic Washing Machines, Rolling Sheet Metal	Oct, July Oct, Sept, Oct, Nov, Dec, May June	246 238 297 230 141 242 193 166 258 216
versal Ram Type. Turning Equipment, Sundstrand Milling and. Twelsiek, Fritz: Direction-changing Drive. Twin Disc Clutch Co.: Oil-actuated, Multiple-plate Clutches. Heavy-duty Friction Clutch Twin-In-Action Coil Handler, Sesco Twisted Loop on Wire Ends, Mechanism for Forming, Ralph T. Stewart Twisting Rod, Cam-jaw Chucks for. Oscar Nagelis. Typewriter for Recording Test Results, Automatic Testing Machine with  U Ultra-mation Heavy-duty Cylinders,	Sept. Nov. Sept. Dec. Aug. June May Dec.	223 261 193 308 189 328 238 208 190 181 221	Vacuum Melting, Improved Alloys Produced by Vacuum Metals Corporation: Largest Vacuum Melting Furnace in Operation Valentie Metals Corporation: Valentie Metals Corporation: Holders and Carbide Inserts Valve Bodies, Turret Lathe Fixture with Pivoting Feature for Gate- Valve, Clark Control Equipment and Magnetic Air Valve Daily Dual Air Valve Instructure Control Valve High-pressure Control Valve High-pressure Control Valve High-pressure Control Valve High-grass Multi-purpose Valve Seats, Inserted-blade Tools for Machining Valve-testing Machine Valve, Vicker's Pilot-operated Check- Valves, Vicker's Pilot-operated Check- Valves, Vicker's Pilot-operated Check- Valves, Vicker's Pilot-operated Check- Valves, Hossindin Solenoti Heads for Valves, Vicker's Pilot-operated Check- Valves, Hannifin Solenoti Heads for	June Jan. Feb. Oct. Sept. June Jan. July Oct. Aug. May Apr. Aug. Feb.	240 220 189 244 240 216 248 238 177 234 224 250 209 230	Abrasive Cutting Increases in Popularity Consensus Tube Bender Waltham Machine Works: Cabinet Model Pinion- and Gearcutting Machine Warner & Swasey Co. New Attachments Muitiple-spindle Automatics, Turret Lathe, and Universal Ram Type Machine Radio-isotopes Measure Tool Wear in Metal-cutting Seventy-fifth Anniversary Celebrated with Open House Universal Ram Type Turret Lathes Washer Electrostatically, Painting the Whiripool, Dwight Eberly Washers Insure Tighter Joinet with Uniformiy Preloaded Structural Bolts, "PLI" Washing Machine, Stoelling Automatic Washing Machine, Stoelling Sheet Metal into Housings for Herbert Chase	Oct, July Oct, Sept, Oct, Nov, Dec, May June	246 238 297 230 141 242 193 166 258 216
versal Ram Type. Turning Equipment, Sundstrand Milling and. Twelslek, Fritz: Direction-changing Drive Twin Disc Clutch Co.: Oil-actuated, Multiple-plate Clutches	Sept. Nov. Sept. Dec. Aug. June May Dec.	223 261 193 306 189 328 238 208 190 181 221	Vacuum Melting, Improved Alloys Produced by Vacuum Metals Corporation: Largest Vacuum Melting Furnace in Operation Valentie Metals Corporation: Valentie Metals Corporation: Holders and Carbide Inserts Valve Bodies, Turret Lathe Fixture with Pivoting Feature for Gate- Valve, Clark Control Equipment and Magnetic Air Valve for Hydraulic Circuits, Sole- noid-operated Valve High-pressure Control Valve Lubricant, Rockwell Valve, High-pressure Control Valve, Ross Multi-purpose Valve, Ross Multi-purpose Valve Ross Multi-purpose Valve Sals, Inserted-blade Tools for Machining Valve-testing Machine Valve, Vickers Pilot-operated Check- Valves, Hannifin Solenoid Heads for Pilot-Mater	June Jan. Feb. Oct. Sept. June Jan, July Oct. Aug. Aug. Apr. Aug. Feb. Oct.	240 220 189 244 240 216 248 238 177 234 224 250 209 230	Abrasive Cutting Increases in Popularity Consensus Tube Bender Waltham Machine Works: Cabinet Model Pinion- and Gearcutting Machine Warner & Swasey Co. New Attachments Multiple-spindle Automatics, Turret Lathe, and Universal Ram Type Machine Radio-isotopes Measure Tool Wear in Metal-cutting Seventy-fifth Anniversary Celebrated with Open House Universal Ram Type Turret Lathes Washer Electrostatically, Painting the Whirlpool. Dwight Eberly Washers Insure Tighter Joint-with Uniformly Preloaded Bructural Bolts, "PLI" Washing Machine, Stoelting Automatic Washing Machines, Rolling Sheet Metal into Housings for Herbert Chase Waste? Waster Waster Waster Waster Waster Woods	Oct. July Oct. Sept. Oct. Nov. Dec. May June Nov. July Jan.	246 238 297 230 141 242 193 166 258 216
versal Ram Type. Turning Equipment, Sundstrand Milling and. Twelsiek, Fritz: Direction-changing Drive Twin Disc Clutch Co.: Oil-actuated, Multiple-plate Clutches Heavy-duty Friction Clutch. Twin-In-Action Coil Handler, Sesco Twisted Loop on Wire Ends, Mechanism for Forming, Ralph T. Stewart Twisting Rod, Cam-Jaw Chucks for, Oscar Nagelis Typewriter for Recording Test Results, Automatic Testing Machine with  U  Ultra-mation Heavy-duty Cylinders, Logan Ultrasonic Degressers, Curtiss-Wright	Sept. Nov. Sept. Dec. Aug. June May Dec.	223 261 193 306 189 328 238 208 190 181 221	Vacuum Melting, Improved Alloys Produced by Vacuum Metals Corporation: Largest Vacuum Melting Furnace in Operation Valentie Metals Corporation: Valentie Metals Corporation: Holders and Carbide Inserts Valve Bodies, Turret Lathe Fixture with Pivoting Feature for Gate- Valve, Clark Control Equipment and Magnetic Air Valve Clark Control Equipment and Magnetic Air Valve, Graph Dual Air Valve, High-pressure Control Valve, High-pressure Control Valve Lubricant, Rockwell Valve Making, Metallizing Integrated in Valve Making, Metallizing Integrated in Valve, Ross Multi-purpose Valve Seats, Inserted-blade Tools for Machining Valve, Vickers Pilot-operated Check- Valves, Hannifin Solenoid Heads for Pilot-Master Valves, Bonoid and Cover for Ross	June Jan. Feb. Oct. Sept. June Jan, July Oct. Aug. Aug. Apr. Aug. Feb. Oct.	240 220 189 244 240 216 248 238 177 234 224 250 209 230	Abrasive Cutting Increases in Popularity. Consensus Tube Bender Waltham Machine Works: Cabinet Model Pinion- and Gearcutting Machine Warner & Swasey Co.: New Attachments Muitple-spindle Automatics, Turret Lathe, and Universal Ram Type Machine Radio-isotopes Measure Tool Wear in Metal-cutting Seventy-fifth Anniversary Celebrated with Open House. Universal Ram Type Turret Lathes Washer Electrostatically, Painting the Whiripool, Dwight Eberly Washers Insure Tigher Joinst with Uniformly Preloaded Bructural Bolts, "PLI" Washing Machines, Stoelling Automatic, Washing Machines, Rolling Shoet Metal into Housings for Herbert Chase Waster Wash Dosen't the Government Cut This, Charles O, Herb	Oct. July Oct. Sept. Oct. Nov. Dec. May June Nov. July Jan.	246 238 297 230 141 242 193 166 258 216
versal Ram Type. Turning Equipment, Sundstrand Milling and. Twelsiek, Fritz: Direction-changing Drive Twin Disc Clutch Co.: Oil-actuated, Multiple-plate Clutches Heavy-duty Friction Clutch Twin-In-Action Coil Handler, Sesco Twisted Loop on Wire Ends, Mechanism for Forming, Raiph T. Stewart Twisting Rod, Cam-jaw Chucks for. Oscar Nagelis Typewriter for Recording Test Results, Automatic Testing Machine with  U Ultra-mation Heavy-duty Cylinders, Logan Ultrasonic Degreasers, Curtiss-Wright Ultrasonic Degreasers, Curtiss-Wright Ultrasonic Manufacturers Associa*:-ob.	Sept. Nov. Sept. Dec. Aug. June May Dec.	223 261 193 306 189 328 238 208 190 181 221	Vacuum Melting, Improved Alloys Produced by  Vacuum Metals Corporation: Largest Vacuum Melting Furnace in Operation Valenite Metals Corporation: Valenite Metals Corporation: Holders and Carbide Inserts Valve Bodies, Turret Lathe Fixture with Pivoting Feature for Gate- Vaive, Calrk Control Equipment and Magnetic Air Vaive Daily Dual Air Vaive for Hydraulic Circuits, Sole- noid-operated Vaive, High-pressure Control Vaive Lubricant, Rockwell Vaive High-pressure Control Vaive Maing, Metallizing Integrated in Vaive, Quick-As-Wink Control Vaive Seats, Inserted-biade Tools for Machining Vaive-testing Machine Vaive Vickers Pilot-operated Check- Valves, Hannfin Solenoid Heads for Pilot-Master Valves, Solenoid and Cover for Ross Valves, Solenoid and Cover for Ross Valves, Solenoid and Cover for Ross Valves, Vickers Solenoid-controlled	June Jan. Feb. Oct. Sept. June Jan. July Apr. Aug. Feb. Oct. Feb.	199 240 220 189 244 240 216 248 177 234 224 250 209 230 248 227	Abrasive Cutting Increases in Popularity Consensus Tube Bender Waltham Machine Works: Cabinet Model Pinion- and Gearcutting Machine Warner & Swasey Co. New Attachments Multiple-spindle Automatics, Turret Lathe, and Universal Ram Type Machine Radio-isotopes Measure Tool Wear in Metal-cutting Seventy-fifth Anniversary Celebrated with Open House Universal Ram Type Turret Lathes Washer Electrostatically, Painting the Whirlpool. Dwight Eberly Washers Insure Tighter Joint-with Uniformly Preloaded Bructural Bolts, "PLI" Washing Machine, Stoelting Automatic Washing Machines, Rolling Sheet Metal into Housings for Herbert Chase Waste? Waster Waster Waster Waster Waster Woods	Oct. July Oct. Sept. Oct. Nov. Dec. May June Nov. July Jan.	246 238 297 230 141 242 193 166 258 216
versal Ram Type. Turning Equipment, Sundstrand Milling and. Twelsiek, Fritz: Direction-changing Drive Twin Disc Clutch Co.: Oil-actuated, Multiple-plate Clutches Heavy-duty Friction Clutch Twin-In-Action Coil Handler, Sesco Twisted Loop on Wire Ends, Mechanism for Forming, Ralph T. Stewart Twisting Rod, Cam-jaw Chucks for, Oscar Nagelis Typewriter for Recording Test Results, Automatic Testing Machine with  U Ultra-mation Heavy-duty Cylinders, Logan. Ultrasonic Degreasers, Curtiss-Wright Ultrasonic Degreasers, Curtiss-Wright Ultrasonic Manufacturers Association. Officers of Recently Organized Association.	Sept. Nov. Sept. Dec. Aug. June May Dec.	223 261 193 308 189 328 238 208 190 181 221	Vacuum Melting, Improved Alloys Produced by Vacuum Metals Corporation: Largest Vacuum Melting Furnace in Operation Valenite Metals Corporation: Holders and Carbide Inserts Valve Bodies, Turret Lathe Fixture with Pivoting Feature for Gate- Vaive, Clark Control Equipment and Magnetic Air Vaive, Dally Dual Air Vaive July Dual Air Vaive for Hydraulic Circuits, Sole- noid-operated Vaive, High-pressure Control Vaive High-pressure Control Vaive High-grasses Multi-purpose Vaive Waive, Moss Multi-purpose Vaive Seats, Inserted-blade Tools for Machining Vaive-testing Machine Vaive, Vickers Pilot-operated Check- Vaives, Solenoid and Cover for Ross Vaives, Solenoid and Cover for Ross Vaives, Vickers Solenoid-controlled Directional Van Norman Machine Co.:	June Jan. Feb. Oct. Sept. June Jan. July Apr. Aug. Feb. Oct. Feb.	199 240 220 189 244 240 216 248 177 234 224 250 209 230 248 227	Abrasive Cutting Increases in Popularity. Consensus Tube Bender Waltham Machine Works: Cabinet Model Pinion- and Gearcutting Machine Warner & Swasey Co.: New Attachments Muitiple-spindle Automatics, Turret Lathe, and Universal Ram Type Machine Radio-isotopes Measure Tool Wear in Metal-cutting Seventy-fifth Anniversary Celebrated with Open House Universal Ram Type Turret Lathes Washer Electrostatically, Painting the Whiripool, Dwight Eberly Washers Insure Tighter Joinst with Uniformly Preloaded Bructural Bolts, "PLI" Washing Machines, Boolling Automatic, Vashing Machines, Boiling Sheet Metal into Housings for Herbert Chase Waster Why Doesn't the Government Cut This, Charles O. Herb Watchine Karles O. Herb Watchine Farrel Foundry & Machine Co.:	Oct. July Oct. Sept. Oct. Nov. Dec. May June Nov. July Jan. Apr.	246 238 297 230 141 242 193 166 258 216 154
versal Ram Type. Turning Equipment, Sundstrand Milling and. Twelsiek, Fritz: Direction-changing Drive Twin Disc Clutch Co.: Oil-actuated, Multiple-plate Clutches Heavy-duty Friction Clutch Twin-in-Action Coil Handler, Seaco. Twisted Loop on Wire Ends, Mechanism for Forming, Ralph T. Stewart Twisting Rod, Cam-jaw Chucks for, Oscar Nagelis. Typewriter for Recording Test Results, Automatic Testing Machine with.  Ultra-mation Heavy-duty Cylinders, Logan. Ultrasonic Degreasers, Curtiss-Wright Ultrasonic Degreasers, Curtiss-Wright Ultrasonic Manufacturers Association. Officers of Recently Organized Association. Ultra-Speed Gear-hobbing Machine and	Sept. Nov. Sept. Dec. Aug. June May Dec. Feb. Aug. Apr.	223 261 193 308 189 328 238 208 190 181 221	Vacuum Melting, Improved Alloys Produced by Vacuum Metals Corporation: Largest Vacuum Melting Furnace in Operation Valenite Metals Corporation: Holders and Carbide Inserts Valve Bodies, Turret Lathe Fixture with Pivoting Feature for Gate- Valve, Clark Control Equipment and Magnetic Air Valve, Danly Dual Air Valve, Danly Dual Air Valve, High-pressure Control Valve, High-pressure Control Valve Lubricant, Rockwell Valve Making, Metallizing Integrated in Valve, Ross Multi-purpose Valve Seats, Inserted-blade Tools for Machining Valve-testing Machine Valve, Vickers Pilot-operated Check- Valve, Vickers Pilot-operated Check- Valves, Hannifin Solenoid Heads for Pilot-Master Valves, Solenoid and Cover for Ross Valves, Vickers Solenoid-controlled Directional Van Norman Machine Co.: Automatic-cycle Plunge-cut Grind-	June Jan. Feb. Oct. Sept. June Jan. July Oct. Aug. Aug. Apr. Aug. Feb. July	199 240 220 189 244 240 216 248 238 177 234 224 250 209 230 248 227 246	Abrasive Cutting Increases in Popularity Consensus Tube Bender Waltham Machine Works: Cabinet Model Pinion- and Gearcutting Machine Warner & Swasey Co.: New Attachments Multiple-spindle Automatics, Turret Lathe, and Universal Rum Type Machine Radio-isotopes Measure Tool Wear in Metal-cutting Seventy-fifth Anniversary Celebrated with Open House Universal Ram Type Turret Lathes Washer Electrostatically, Painting the Whirlpool. Dwight Eberly Washers Insure Tighter Joints with Uniformly Preloaded Bructural Bolts, "PLI" Washing Machine, Stoelling Automatic Washing Machine, Stoelling Shoet Metal into Housings for, Herbert Chase Waste? Why Doesn't the Government Cut This, Charles O. Herb Waterbury Farrel Foundry & Machine Co.: Screw-siotting Machine Double-stroke Cold-heading Ma-	Oct. July Oct. Sept. Oct. Nov. Dec. May June Nov. July Jan. Apr.	240 238 297 230 141 242 193 166 258 216 154 157
versal Ram Type. Turning Equipment, Sundstrand Milling and. Twelsiek, Fritz: Direction-changing Drive Twin Disc Clutch Co.: Oil-actuated, Multiple-plate Clutches Heavy-duty Friction Clutch Twin-In-Action Coil Handler, Sesco Twisted Loop on Wire Ends, Mechanism for Forming, Ralph T. Stewart Twisting Rod, Cam-jaw Chucks for. Oscar Nagelis. Typewriter for Recording Test Results, Automatic Testing Machine with  U U Ultra-mation Heavy-duty Cylinders, Logan Ultra-mation Heavy-duty Cylinders, Logan Officers of Recently Organized Association. Officers of Recently Organized Association. Ultra-Speed Gear-hobbing Machine and Finishing Equipment, Michigan	Sept. Nov. Sept. Dec. Aug. June May Dec. Peb. Aug.	223 261 193 308 189 328 238 208 190 181 221	Vacuum Melting, Improved Alloys Produced by Vacuum Metals Corporation: Largest Vacuum Melting Furnace in Operation Valentie Metals Corporation: Valentie Metals Corporation: Holders and Carbide Inserts Valve Bodies, Turret Lathe Fixture with Pivoting Feature for Gate- Valve, Clark Control Equipment and Magnetic Air Valve (Lark Control Equipment and Magnetic Air Valve, May Dual Air Valve (Fred Control Control Valve, High-pressure Control Valve High-pressure Control Valve Making, Metallizing Integrated in Valve Making, Metallizing Integrated in Valve Making, Metallizing Integrated in Valve Ross Multi-purpose Valve Seats, Inserted-blade Tools for Machining Valve-testing Machine Valves, Vickers Pilot-operated Check- Valves, Bosnoid and Cover for Ross Valves, Vickers Solenoid-controlled Directional Van Norman Machine Co.: Automatic-cycle Plunge-cut Grind- ing Machine	June Jan. Feb. Oct. Sept. June Jan. July Oct. Aug. May Apr. Aug. Feb. July Sept.	199 240 220 189 244 240 216 248 238 177 234 224 250 209 230 248 227 246	Abrasive Cutting Increases in Popularity. Consensus Tube Bender Waltham Machine Works: Cabinet Model Pinion- and Gearcutting Machine. Warner & Swasey Co.: New Attachments Muitiple-spindle Automatics, Turret Lathe, and Universal Rum Type Machine Radio-isotopes Measure Tool Wear in Metal-cutting Seventy-fifth Anniversary Celebrated with Open House. Wulversal Ram Type Turret Lathes Washer Electrostatically, Painting the Whiripool, Dwight Eberly Washers Insure Tighter Joinet with Uniformly Preloaded Structural Bolts, "PLP" Washing Machine, Stoelting Automatic Washing Machine, Stoelting Automatic into Housings for, Herbert Chase Waster Why Doesn't the Government Cut This, Charles O, Herb Waterbury Farrel Foundry & Machine Co.: Screw-siotting Machine Double-stroke Cold-heading Ma- chine	Oct. July Oct. Sept. Oct. Nov. Dec. May June Nov. July Jan. Apr.	240 238 297 230 141 242 193 166 258 216 154 157
versal Ram Type. Turning Equipment, Sundstrand Milling and . Twelsiek, Fritz: Direction-changing Drive . Twin Disc Clutch Co.: Oil-actuated, Mulitiple-plate . Clutches . Heavy-duty Friction Clutch . Twin-in-Action Coil Handler, Seaco . Twisted Loop on Wire Ends, Mechanism for Forming, Ralph T. Stewart . Twisting Rod, Cam-jaw Chucks for. Oscar Nagelis . Typewriter for Recording Test Results, Automatic Testing Machine with .  Ultra-mation Heavy-duty Cylinders, Logan . Ultra-sonic Degressers, Curtiss-Wright Ultrasonic Manufacturers Association . Officers of Recently Organized . Association . Ultra-Speed Gear-hobbing Machine and Finishing Equipment, Michigan Underdrive Press of Improved Design,	Sept. May Sept. Nov. Sept. Dec. Aug. June May Dec. Peb. Aug. Apr. Sept.	223 261 193 308 189 328 238 208 190 181 221 242 217 206 202	Vacuum Melting, Improved Alloys Produced by Vacuum Metals Corporation: Largest Vacuum Melting Furnace in Operation Valenite Metals Corporation: Valenite Metals Corporation: Holders and Carbide Inserts Valve Bodies, Turret Lathe Fixture with Pivoting Feature for Gate- Valve, Clark Control Equipment and Magnetic Air Valve Pally Dual Air Valve for Hydraulic Circuits, Sole- noid-operated Valve High-pressure Control Valve Lubricant, Rockweil Valve High-pressure Control Valve High-pressure Control Valve Horizant, Metallizing Integrated in Valve, Quick-As-Wink Control Valve Seats, Inserted-blade Tools for Machining Valve Seats, Inserted-blade Tools for Machining Valve Seats, Inserted-blade Tools for Pilot-Master Valves, Hannifin Solenoid Heads for Pilot-Master Valves, Solenoid and Cover for Ross Valves, Solenoid and Cover for Ross Valves, Solenoid and Cover for Ross Valves, Vickers Solenoid-controlled Directional Van Norman Machine Co.: Automatic-cycle Plunge-cut Grind- ing Machine Ram Type Milling Machine with Quil	June Jan. Feb. Oct. Sept. July Oct. Aug. Aug. Feb. Oct. Feb. July Sept.	199 240 220 189 244 240 216 248 238 234 224 250 209 230 248 227 246 238	Abrasive Cutting Increases in Popularity Consensus Tube Bender Waltham Machine Works: Cabinet Model Pinion- and Gearcutting Machine. Warner & Swasey Co.: New Attachments Multiple-spindle Automatics, Turret Lathe, and Universal Ram Type Machine Radio-isotopes Measure Tool Wear in Metal-cutting Seventy-fifth Anniversary Celebrated with Open House Washer Electrostatically, Painting the Whirlpool, Dwight Eberly Washers Insure Tighter Joinet with Uniformly Preloaded Bructural Bolts, "PLI" Washing Machine, Stoelting Automatic Washing Machines, Rolling Sheet Metal into Housings for, Herbert Chase Waster Wy Doesn't the Government Cut This, Charles O. Herb Waterbury Farrel Foundry & Machine Co.: Screw-slotting Machine Double-stroke Cold-heading Ma- chine Watson-Stillman Press Division,	Oct. July Oct. Sept. Oct. Nov. Dec. May June Nov. July Jan. Apr.	240 238 297 230 141 242 193 166 258 216 154 157
versal Ram Type. Turning Equipment, Sundstrand Milling and. Twelsiek, Fritz: Direction-changing Drive Twin Disc Clutch Co.: Oil-actuated, Multiple-plate Clutches. Heavy-duty Friction Clutch Twin-In-Action Coil Handler, Sesco Twisted Loop on Wire Ends, Mechanism for Forming, Raiph T. Stewart Twisting Rod, Cam-jaw Chucks for, Oscar Nagelis Typewriter for Recording Test Results, Automatic Testing Machine with  Ultra-mation Heavy-duty Cylinders, Logan. Ultrasonic Degressers, Curtiss-Wright Ultrasonic Degressers, Curtiss-Wright Ultrasonic Manufacturers Associa* Officers of Recently Organized Association Ultra-Speed Gear-hobbing Machine and Finishing Equipment, Michigan Underdrive Press of Improved Design,	Sept. Nov. Sept. Dec. Aug. June May Dec. Feb. Apr. Sept. Feb.	223 261 193 308 189 328 238 208 190 181 221 242 217 206	Vacuum Melting, Improved Alloys Produced by Vacuum Metals Corporation: Largest Vacuum Melting Furnace in Operation Valentie Metals Corporation: Valentie Metals Corporation: Holders and Carbide Inserts Valve Bodies, Turret Lathe Fixture with Pivoting Feature for Gate- Valve, Clark Control Equipment and Magnetic Air Valve (Lark Control Equipment and Magnetic Air Valve, May Dual Air Valve (Fred Control Control Valve, High-pressure Control Valve High-pressure Control Valve Making, Metallizing Integrated in Valve Making, Metallizing Integrated in Valve Making, Metallizing Integrated in Valve Ross Multi-purpose Valve Seats, Inserted-blade Tools for Machining Valve-testing Machine Valves, Vickers Pilot-operated Check- Valves, Bosnoid and Cover for Ross Valves, Vickers Solenoid-controlled Directional Van Norman Machine Co.: Automatic-cycle Plunge-cut Grind- ing Machine	June Jan. Feb. Oct. Sept. July Oct. Aug. Aug. Feb. Oct. Feb. July Sept.	199 240 220 189 244 240 216 248 238 177 234 250 209 230 248 227 246 238 312	Abrasive Cutting Increases in Popularity. Consensus Tube Bender Waltham Machine Works: Cabinet Model Pinion- and Gearcutting Machine. Warner & Swasey Co.: New Attachments Muitiple-spindle Automatics, Turret Lathe, and Universal Rum Type Machine Radio-isotopes Measure Tool Wear in Metal-cutting Seventy-fifth Anniversary Celebrated with Open House. Wulversal Ram Type Turret Lathes Washer Electrostatically, Painting the Whiripool, Dwight Eberly Washers Insure Tighter Joinet with Uniformly Preloaded Structural Bolts, "PLP" Washing Machine, Stoelting Automatic Washing Machine, Stoelting Automatic into Housings for, Herbert Chase Waster Why Doesn't the Government Cut This, Charles O, Herb Waterbury Farrel Foundry & Machine Co.: Screw-siotting Machine Double-stroke Cold-heading Ma- chine	Oct. July Oct. Sept. Oct. Nov. Dec. May June Nov. July Jan. Apr. Dec. Aug.	240 238 297 230 141 242 193 166 258 216 154 157 206 218

Wavometer Equipped with Automatic			Wheel Manufacture, "Electronic Formu-			Wiedemann Machine Co.:		
Lubricator	Feb.	220	lation" for Grinding		141	Punch Presses for Short Runs	Sept	210
Waydrill Production Drilling and Tap-			"Wheel of Automation," Snyder Ma-			Automatic Turret Punch Press	Nov.	217
ping Unit, Seneca Falls	Sept	. 289	chine Models on	Sept.	. 283	Wilbur & Williams Co.:		
Ways for Hydrabrasive Grinders, Pre-			Wheel Rejects, Epoxy Adhesive Re-			Paint Adhesion Assured on Various		
cision Cross-feed Screw and Ball-	D	000	duces Grinding	Feb.	187	Smooth Surfaces	June	176
bearing	Dec.	206	Wheel Spindles, Super-precision	Out	949	Willey's Carbide Tool Co.:	Mar	944
Co.:			Wheels, Abrasive Cut-off			Steel-cutting Carbides	mar,	244
Stainless-steel Wire Offers Work-			Wheels and Pinions, Impact Extrusion	reu,	440	Jet Engine Compressor Disc Pro-		
ability and Uniformity	Nov.	177	of Aluminum Counter	June	153	duction at Thompson Products	July	188
Weber, Richard M.:			Wheels, Automatic Press Line for			Wilson, Inc., K. R.:	,	
ficribing a Lay-out Line from a			Producing Automobile	Mar.	227	Adjustable-bed Hydraulic Gap		
Rounded Corner	Dec.	200	Wheels, Cera-Met Bond for Diamond	June	206	Presses	Sept.	303
Welder, Improved Arc	July	246	Wheels, Diaform Attachment for Form-			Bench Type Arbor Press	June	215
Welder, Lincoln Diesel-powered	Dec.	228	ing Complex Contours on Grinding	June	205	Wilson Mechanical Instrument Division,		
Welder, Sciaky Air-operated Seam	May	197	Wheels, Excessive Truing of Grinding.			American Chain & Cable Co.:		
Welder with Precision Timing Control,		010	Gus Wickstrom	May	187	Automatic Rockwell Hardness	Ø	000
Resistance	May	212	Wheels, Federal Gage for Checking		000	Wind Tunnel Tests Jet-engine Compo-	sept.	209
Heavy Steel Components, Squirt	Inn	167	Grinding	Dec.	208	nents, Supersonic	Man	248
Welding, Alloy Fluxes for Automatic	gan.	101		Feb	228	Winding Forms Machined to Extremely	May	240
Submerged-arc	Dec.	203	Wheels, Hydraulic Presses Compact	reu.	200	Ciose Limits, Glass Coil. N. E. Earle		
Welding Boosts Clutch Disc Production,	2000		Small Abrasive, 5, Spicer Kenyon	Dec	183	and F. J. Sweeney	Oct.	162
Bubmerged-arc	Feb.	174	Wheels, Sectional Buffing	May	228	Winslow Mfg. Co.:		
Welding Coil Stock, Morton Machine for			Wheelabrator Corporation:			Guillotine Gage with Interchangeable		
Butt	Nov.	201	Abrasive Blast Cleaning Machine	June	220	Parts	Oct.	252
Welding, Electrode, see Electrode			A Blast-cleaning Abrasive for			Wiper, Scott Industrial	Sept.	296
Welding Equipment Designed to Use			Producing Etched Finishes	Aug.	174	Wipers, Scott Paper	Mar.	250
Carbon Dioxide Shielding Gas, Gen-			Monorail Blast Cleaner	Aug.	201	Wiping Machine, Automatic Rotary	Dec.	210
eral Electric	Oct.	226	Wheelco Instruments Division, Barber-			Wire Ends, Mechanism Loops and		100
Welding Equipment, Lincoln Sub-	Man	991	Colman Co.:			Twists, Ralph T. Stewart	June	190
merged-arc	MOA.	221	Potentiometer-recorder	Apr.	240	Wire for Forming Complex Shapes, Tempered Beryllium-copper	for	120
Carbon Dioxide, Automatic	Nov	156	Whirldlad Process for Coating Objects			Wire for Submerged-arc Process,	Jan.	110
Weiding Heads, Unionmeit			with Plastic Materials	Apr.	187	Buildup	Anr	217
Welding in Design of Machine Tools,			Whiripool Corporation:			Wire-forming Machine, Driving Mecha-		
Awards Promote	Nov.	258	Rolling Sheet Metal into Housings			nism for. William H. Morson	Aug.	194
Welding Machines, Arc	Aug.	224	for Washing Machines	Jan.	154	Wire, Improved Molybdenum	Dec.	192
Welding Methods at Ryan, Improved	Nov.	164	Finishing the Whiripool Washer	June	100	Wire Offers Workability and Uniformity,		
Welding Process, Internal Bead Elimi-			Whitman & Barnes:			Stainless-steel	Nov.	177
nated by New Tube	Oct.	204	Drills of Various Types to Suit Spe-			Woodruff Key-slot Gages, Two Im-		
Welding Unit, Automatic	Aug.	234	cific Needs	Jan.	200	proved Designs for, L. W. Lazarick	Jan.	175
Weldments, Annealing Large Stainless-	Wah	169	Hercules Cobalt High-speed Drills Combined Drill and Countersink	Apr	236	Woodworth Co., N. A.:		
Steel. Horace C. Knerr	Peb.	103	Short-length Drills for Screw Ma-	Apr.	201	Tork-lok Collet Arbor	Mar.	220
Available, Large-diameter Light-				May	228	Heinrich	Mar	212
wall	Apr	186	High-production Reamers	June		Wrench, Automatic Power	Anr	244
Wells & Sons, W. F.:	. apr.		Core-drills with Three and Four			Wrench Openings, American Standard	· · ·	
Giant-size Metal-cutting Band Saw	June	213	Flutes	Aug.	226	(Data Sheet)	June	249
Wells, Dwight D.:			Whitney Metal Tool Co.:			Wrench, Universal Electric Impact		
Right-angle Indexing Head for Hor-			Small Bending Brake with Slotted			Wrenches, Thor Right-angle Drive for		
izontal Boring Mill	Dec.	199	Jaws	Aug.	220	Impact	May	207
Wells Mfg, Corporation:			Whitney Metrology Laboratory, Eli:			Wysong & Miles Co.:		
Cut-off Saw of Increased Capacity	Oct.	231	Yardsticks for Industry Shrink to a			All-steel Bending Rolls	May	210
Wesson Co.: Indexible Carbide Insert Tool-			Millionth of an Inch	Mar.	233			
holders	Mar	252	Wick, Charles H.:			Y		
Poweramic Carbide Tool Grinder	May	199	Automatic Engine Assembly on a					
Milling Cutters with "Throw-	,		Transfer Machine	Dec.	166	Yardsticks for Industry Shrink to a		
away" Carbide Inserts	May	211	Automation of Crankshafts Speeds			Millionth of an Inch	Mar.	233
Multicut Carbide-insert Tool	June	240	Plymouth V-8 Production	Jan.	123			
"Throw-away" Insert Tools	Aug.	238	Accurate Punching Controlled from					
Western Electric Co., Inc.:			Cardboard Template	Jan.	134	7:		
Glass Tubes Machined to Extremely			Buick Cold-forms Serrations on	1	199			
Close Limits	Oct.	162	Hardened Shafts	Jan.	111	Zagar Tool, Inc.:		
Westinghouse Electric Corporation:			Automated Stamping of Rear-axle Housings	Mar	160	Cam-feed Drilling Units		
Iron Impurities "Led" Out of	Dec	100	Usage Charts Increase Tool Life	Apr	179	"In-Line" Gearless Drill Heads		
Titanium Bars	Dec.	102	Ford Jet-engine Production Features			Equipment for Special Drilling Job	Jan.	189
Twentieth Electrification Forum	June	900	Advanced Tooling		140	Gearless Head for Drilling Circuit	Mar	990
Transformers for Machine Tools			Wickstrom, Gus:	-	-	Rotary Indexing Table for Drilling	mar,	220
"Wetordry Fabricut" Cloth Mesh			Excessive Truing of Grinding			Small Parts	May	200
Wheel Dresser, Built-in			Wheels	May	187	Zimmerman, William F., Obituary of		
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